

SITUATION REPORT NO. 17
INCIDENT NO. 96-01
DATE: October 18, 1996 TIME: 8 a.m.

TO: Governor Edward T. Schafer
State Capitol
Bismarck, ND 58505

1. NATURE OF DISASTER: Spring Flood-Devils Lake. (Separate situation reports are issued regarding flooding in the rest of the state, incident #96-37.)
2. DEATH AND INJURIES: No change from previous reports.
3. DAMAGE: The level of Devils Lake was 1437.41 feet MSL on October 16.
4. RESOURCES COMMITTED:
LOCAL: No change from previous reports.
STATE: No change from previous reports.
FEDERAL: No change from previous reports.
5. VOLUNTEER ACTIONS: No change from previous reports.
6. MAJOR ACTIONS: A State Flood Coordination Center meeting was held October 3. Participants outlined the progress of current projects and discussed response plans to a potential 1,438, 1,439 and 1,440 feet MSL level for Devils Lake. A summary of their reports follow:

N.D. Department of Transportation (N.D. DOT)

Current Projects/Information:

All grade raise projects on state highways that began in 1995 and 1996 will be completed this season, except for the Six Mile Bay project. The elevation of the Six Mile Bay bridge on N.D. Highway 19 to should be completed by July 1997.

The N.D. DOT is adding a seal coat to all grade raises. This will provide a more durable weatherproof surface that will be less likely to break down and form potholes during winter.

The department has awarded a contract for a 12,000-ton stockpile of rip-rap stone for emergency repairs in 1997. The rip-rap will be placed at the junction of U.S. Highway 281 and N.D. Highway 57.

Work will begin soon to raise a portion of the Fort Totten Bay crossing, where the pavement is broken and gravel has been used as fill. The road will be raised to approximately 1,442 feet MSL to stabilize the broken pavement area.

Grade raise areas and/or lake crossings as they will exist for the 1996-97 winter season include:

<u>Highway</u>		<u>Elevation in Feet</u>
N.D. Highway 19,	Mauvais Coulee	1,445.0 (low point - roadway)
N.D. Highway 19,	Mauvais Coulee	1,446.8 (bridge)
N.D. Highway 19,	Six Mile Bay	1,441.0 (low point - roadway)
N.D. Highway 19,	Six Mile Bay	1,448.5 (new bridge elev.)

N.D. Highway 19,	Jct. U.S. 281	1,442.5
N.D. Highway 20,	N. of Camp Grafton	1,440.0
N.D. Highway 20,	at the Narrows	1,441.3
N.D. Highway 20,	Spring Lake - N. Of Tokio	1,441.5
N.D. Highway 57,	Fort Totten Bay	1,442.0
N.D. Highway 57,	Culvert Plant	1,441.0
N.D. Highway 57,	Narrows	1,440.5 (low point - roadway)
N.D. Highway 57,	Narrows	1,443.5 (ridge)
U.S. Highway 281,	N. Of Minnewaukan	1,443.0

1997 Flood Planning:

The N.D. DOT recently received a \$4 million grant from the U.S. Economic Development Administration (EDA). Funds will be used to raise all low areas of N.D. Highway 57 to 1443.5 feet MSL, which is the elevation of the Narrows bridge. The first segment phase includes the Fort Totten Bay crossing, which is the most vulnerable to flood damage. Other low areas will be bid at a later date; all should be under contract during the 1997 summer. This project will also raise low areas on N.D. Highway 20 in the vicinity of Camp Grafton and Acorn Ridge, with the intention of providing a continuous highway route between Fort Totten and Devils Lake that is at, or above, 1,443.5 feet MSL.

Based on the assumption that the lake will continue to rise in 1997, the following conditions are likely to occur as the lake reaches the elevation shown:

- 1,438 feet MSL

All state highways would likely remain open at this elevation, except for temporary closures because of wave action resulting from heavy winds.

Debris deposits will become a more serious issue, especially on N.D. Highway 57. A method for removing dead trees and other sizeable debris from roadways will have to be developed.

Wave damage to highway shoulders will increase and will require intermittent repairs. Rip-rap protection on highway inslopes will be especially vulnerable to damage and will require immediate repair and intensive monitoring.

- 1,439 feet MSL

All state highways would be open on calm days.

N.D. Highway 20 may be closed intermittently at the Narrows, depending on wind direction.

Debris deposits would become a more serious issue as would erosion damage to shoulder and rip-rap sections.

Heavy northwest winds would cause severe wave action on N.D. Highway 57 at the Narrows, making travel very difficult. Temporary closure of the highway may be required.

- 1,440 feet MSL

At this elevation, the N.D. DOT would have serious problems on N.D. Highway 20 at Spring Lake, Mission Township area, and at the Narrows. Road closures may take place; some emergency travel may be possible if such vehicles are escorted by N.D. DOT trucks or by law enforcement if the roadway top has not been eroded by high water.

Except for very windy days, N.D. DOT could probably maintain traffic on N.D. Highway 57, between Fort Totten and Devils Lake, if grade raises are completed in time. If this elevation is reached before the grade raises are done, N.D. Highway 57

would also have to be closed.

Both N.D. Highway 19 and U.S. Highway 281 would probably remain open at this elevation.

At this lake elevation, wave action would be extremely severe and would cause frequent and extensive damage to highway grades. Repair work would become very expensive.

- 1,441 feet MSL

At this lake elevation, N.D. Highway 20 would certainly be closed between the Narrows crossing and Tokio.

Wave action would probably cause frequent damage to rip-rap and shoulders on N.D. Highway 57.

N.D. Highway 19 and U.S. Highway 281 would probably remain open, but temporary closures would occur on windy days.

Grade raises and/or rip-rap protection would become necessary on additional areas of U.S. Highway 281 near Minnewaukan.

Debris deposits and their removal would be a major work item.

N.D. Parks and Recreation Department

Current Projects/Information:

A Devils Lake construction firm has been awarded a contract to move the Grahams Island State Park bait shop to 1,454 feet MSL. Plans call for completing site, utility and concrete work this month, and then moving the building before the 1997 spring thaw. A Federal Emergency Management Agency (FEMA) hazard mitigation grant is providing partial funding for the project.

1997 Flood Planning:

Based on the assumption that the lake will continue to rise in 1997, the following conditions are likely to occur as the lake reaches the elevation shown:

- 1,438 feet MSL

The Parks and Recreation Department does not anticipate any new action items at this elevation. Activities and projects completed during 1996 should provide protection and no loss of services are expected at this elevation.

- 1,439 feet MSL

Impacts on Grahams Island should be minimal. Access to the Loop B comfort station may become more difficult and several campsites may be reduced in size. Access to the boat ramp would be restricted to the high area of the parking area, reducing the number of parking spaces available. The boat storage building would have to be relocated from the boat ramp area.

Shelvers Grove would experience some flooding of two primitive campsites, and the access road for that area would be threatened.

The boat ramp at Black Tiger Bay is currently at elevation 1,439 feet MSL. Current plans are to raise the boat ramp and access road to 1,440 feet MSL this fall or early next spring. Parking would also be reduced at this elevation. The agency may need to add new parking areas.

- 1,440 feet MSL

Grahams Island: The protective levee and boat ramp is currently at 1,440 feet MSL. This elevation may require the Parks and Recreation Department to raise or

relocate the boat ramp. Most of the current parking area would be flooded. The agency would be required to relocate one vault toilet and a playground from the day-use area. Some minor flooding may occur in the west end of the camping area and threaten a short segment of the campground's road. Three or four campsites may also be flooded. The major flooding impact would occur to the Benson/Ramsey County Road that provides access to the park. The road elevation is 1,440 feet MSL for approximately two miles north of the park. Access problems would occur on windy days.

Shelvers Grove: Impacts at this elevation would include the loss of five primitive campsites and the road. The Parks and Recreation Department could relocate these campsites to the east end of the park and maintain the current number of campsites in the park.

Black Tiger Bay: The agency would need to raise the boat ramp and access road above 1,440 feet MSL to provide access for boaters. Providing a boat ramp in this area above the elevation of 1,440 feet MSL would be difficult due to the park's topography. The boat ramp may need to be relocated to another area at Black Tiger Bay.

N.D. Insurance Department

The N.D. Insurance Department will be reviewing 1997 flood projection reports submitted by other agencies responding to Devils Lake flooding. The information will be used to help answer consumer questions

Indian Health Service, U.S. Department of Health and Human Services

Indian Health Service will be soliciting bids for rip-rapping the berms of the sewage lagoon at St. Michael. A study by the agency indicates that the level of Devils Lake would have to exceed 1,446 feet MSL before the lagoon was overtopped.

N.D. State Water Commission

Current Projects/Information:

The Ramsey County Water Resource District delayed opening the Channel A gates between October 1 to 15 for fall draw down to allow additional evaporation to occur in Dry Lake.

Fall inflows from Channel A, Lower Mauvais Coulee, and precipitation falling directly over Devils Lake should cause the lake to rise to a level of 1,437.5 to 1,438 feet MSL at freeze up.

A Fargo contractor should be more than 50 percent complete by the end of this year with the first phase of increasing lake level protection for the city of Devils Lake by an additional five feet. The U.S. Army Corps of Engineers (USACE) estimates the project will cost \$7 million. To date, approximately 300 feet of levee has been completed to grade. The Creel Bay embankment coffer dam has been completed; sand drains were scheduled to be installed the week of October 6 to 12. Three alternatives for the second phase are presently being reviewed by city officials and the city commission.

The State Water Commission, the USACE and the Lake Emergency Management Committee participated in a series of eight public meetings to discuss the Corps' Emergency Outlet Plan. The plan involves pumping lake water into pools to raise the water above the continental divide so that it can flow into the Sheyenne River in an open channel. The outlet capacity used in the plan is 200 cubic feet per second (cfs). The purpose of the public meetings are to solicit the public's perception and concerns, and to develop a consensus regarding the outlet concept. Meetings were held on September 10 in West Fargo, September 24 in Drayton, September 26 in Grand Forks, October 1 in Cooperstown, October 2 in Valley City, October 3 in Lisbon, and October 9 in Devils Lake and Fort Totten.

1997 Flood Planning:

The State Water Commission is continuing to offer Available Storage Acreage Program (ASAP) contracts and is building structures for water retention for 1997. The agency is still pursuing its goal of 75,000 acre-feet of storage through ASAP, storage on public lands, and additional storage in upper basin lakes.

A total of 13,500 acre-feet of water storage was obtained in 1996 through ASAP and the U.S. Fish and Wildlife Services' storage efforts on public lands. The State Water Commission has options for the second year of storage on most of this year's 48 ASAP sites. This fall, the State Water Commission anticipates securing another 1,000 acre-feet of water storage through ASAP. Additional storage sites for 1997 will be pursued through the winter and spring.

North Central Planning Council

Current Projects/Information:

About \$60,000 of a \$160,000 grant for temporary diking has been used. A liberalization of the National Flood Insurance Program (NFIP) waived a requirement that water must be touching a structure's foundation before it can be moved. Hence, the need for diking was reduced. The grant will be amended so that funds can be used to help finance rerouting of rural sewer system lines. The remaining \$100,000.00 will be available for next year if the lake rises to 1,440 feet MSL.

The Planning Council is assisting two businesses relocating from the Piper Subdivision. The agency expects to assist another business before spring.

1997 Flood Planning:

The Planning Council will continue to work with the N.D. Office of Intergovernmental Assistance to utilize available U.S. Housing and Urban Development (HUD) funds to support flood relief programs.

Lake Region District Health

Current Projects/Information:

A Bismarck administrative law judge upheld a decision by Lake Region District Health ordering Ramsey County to remove an abandoned house submerged in Devils Lake water at Creel Bay. Removal costs are estimated at approximately \$20,000.

Lake Region District Health has requested that Concrete Sectional remove its flooded structures at its former lakeshore location near Fort Totten.

As many as 12 mobile homes have been abandoned in the floodplain. The district's environmental health officer indicated that although NFIP waived a requirement that flood waters must be touching the foundation of the building, mobile homes are exempt from that waiver, unless they are on a foundation.

1997 Flood Planning:

Lake Region Health District will be looking for funding assistance to continue its efforts in 1997 to ensure proper removal of homes in the floodplain. The district is tasked with ensuring basements are filled and properties are cleaned after homes are removed.

N.D. National Guard

Current Projects/Information:

The N.D. National Guard has abandoned the Officers Dining Facility/Service Club at Camp Gilbert C. Grafton and has filed a NFIP claim for the facility.

The Guard raised a dike protecting its lagoon by two feet. Rip-rap and other methods will

be used to control erosion. Both the lagoon and the Officers Dining Facility/Service Club are at 1,437 feet MSL.

1997 Flood Planning:

Guard officials expressed concerns that a large portion of the camp, near its baffle range, would be flooded if water overtops N.D. Highway 20.

The camp's equipment training area, located at the south end, is partially flooded; the Guard anticipates more area will be lost next year.

A camp access road that runs parallel to N.D. Highway 20 may be overtopped by flood waters next year. An alternate route, however, will provide access to the camp.

The Guard estimates that one-quarter mile of trees on the south shore may be submerged next year.

Guard officials would consider a cooperative effort with other agencies to remove tree debris in the lake. While the Guard would have the staff, other agencies with commercial grade saws and other equipment would be needed to assist with such efforts.

N.D. Game and Fish Department

1997 Flood Planning:

Based on the assumption that the lake will continue to rise in 1997, the following conditions are likely to occur as the lake reaches the elevation shown:

- 1,438 feet MSL

No action would be needed at Creel Bay and Six Mile Bay.

Rip-rap and minor maintenance may be needed at East Bay.

The Black Tiger Bay boat ramp and access road would have to be elevated to 1,440 feet MSL.

Estimated cost for East Bay and Black Tiger Bay projects is \$10,000.

- 1,439 feet MSL

No action would be necessary at Creel Bay.

The Game and Fish Department would rip-rap and elevate the East Bay, Black Tiger Bay and Six Mile Bay parking areas and boat ramps to 1,441 feet MSL.

Estimated cost for the improvements is \$55,000.

- 1,440 feet MSL

An alternative "high-water" boating access site near the dike at Creel Bay would need to be developed.

The Game and Fish Department would rip-rap and elevate East Bay, Black Tiger Bay and Six Mile Bay parking areas and boat ramps to 1,442 feet MSL.

Estimated cost for the improvements is \$130,000.

Ramsey County Rural Utilities

Current Projects/Information:

The Ramsey County Rural Utilities has shut down 57 accounts, 25 of which resulted from flood waters inundating septic tanks. The others were seasonal accounts. The utility also closed 13 lift stations and residential mini-pumps.

The utility anticipates losing approximately \$14,000 this year, which creates an economic hardship for the small company. As a result of these lost accounts, anticipated losses annually thereafter for sewer and water debt and usage fees total more than \$27,000.

1997 Flood Planning:

Based on the assumption that the lake will continue to rise in 1997, the following conditions are likely to occur as the lake reaches the elevation shown:

- Specific data is being compiled to 1,438 feet MSL through 1,441 feet MSL.
- 1,442 feet MSL
The effect at this elevation would translate into the loss of 44 water accounts. This represents an annual loss of \$23,760 in debt service and usage fees.
The utility estimates that 76 septic tanks would be inundated, and 17 manholes and 14 lift stations would need to be elevated, rip-rapped and modified electrically and plumbing-wise. Sewer revenue lost annually is estimated at \$14,280.
- 1,443 feet MSL
Another eight water accounts would be lost, contributing to a loss of \$4,320 annually in debt service and usage fees.
Fourteen septic tanks would be in the water, and one manhole would need to be elevated. Sewer revenue lost annually would be \$2,760.
- 1,444 feet MSL
Seven more accounts would be disconnected for an annual loss of \$3,780 in debt service and usage fees.
Seven more septic tanks would be inundated, and four manholes and three lift stations would have to be elevated. This represents a \$1,560 loss in annual revenue.
- 1,445 feet MSL
Two more accounts would be lost, representing a \$1080 loss in debt service and usage fees.
Three additional septic tanks would be under water, and two manholes and one lift station would need to be elevated.
This would translate into \$600 in lost sewer revenue annually.

Ramsey County Emergency Management

Current Projects/Information:

Sheet water is accumulating in two locations on County Road 4 and one location on County Road 6. The roads are located in eastern Ramsey County.

County officials are worried trees will continue to create debris problems next spring.

The inslope on the Grahams Island State Park road is being constructed to protect the road this fall. Approximately \$69,000 in federal-state funds have been used to repair the road.

A total of 82 Ramsey County structures have been moved or are scheduled to be moved from the Devils Lake floodplain. Home movers anticipate they will still be relocating homes after the first freeze.

The Ramsey County Emergency Manager will continue to monitor the application of NFIP to continuing Devils Lake flood problems.

Nelson County Emergency Management

Current Projects/Information:

Information on the Small Business Administration's Economic Injury Disaster Loan is being distributed throughout Nelson County. These loans are available for businesses dependent on farmers or ranchers who suffered crop losses from heavy rainfall, flooding, hail, and insect disease and infestation during April 1 to October 25, 1995. Loans are intended to help businesses offset capital losses. Businesses have until October 22 to file.

In an effort to reduce the risk of injury during hunting season, map updates listing road closures are being distributed to the N.D. Game and Fish Department and area law enforcement, ambulance and fire departments. Inundated roads closed to traffic include:

- County Road 1, an east-west road in northern Nelson County;
- County Road 23, located at the Ramsey/Nelson County line;
- Dutch Point Road, near Stump Lake; and,
- Two township roads in Lee Township.

Routing of traffic around Dutch Point Road has added at least 20 minutes to response time for emergency vehicles answering calls in the Tolna area.

N.D. Highway 15, between the cities of Pekin and Tolna, was closed from October 9 to October 11 while railroad crews repair a railroad crossing that shifted as a result of heavy ground saturation.

1997 Flood Planning:

The Nelson County Emergency Manager is accumulating data on land owners and values of the land that may be impacted if Devils Lake flows into Stump Lake and if Stump Lake flows into the Sheyenne River. This information will be distributed to agencies working with the USACE's Devils Lake Emergency Outlet Plan.

Nelson County officials also are examining possible mitigation projects in an effort to alleviate flooding in the county.

Devils Lake Basin Joint Water Resource Board

A Natural Resource Conservation Service (NRCS) watershed technical team from Denver, CO, is presently in the area. The team is discussing long-term watershed management in the Devils Lake Basin and is working specifically with a sub-basin advisory board in the St. Joe Coulee watershed.

Lake Emergency Management Committee

Joe Belford and Vern Thompson, Lake Emergency Management Committee chairmen, participated in the series of meetings with cities downstream from Devils Lake regarding the Emergency Outlet Plan.

City of Devils Lake

Current Projects/Information:

Wanzak Construction has begun the first phase of a project to increase lake level protection for the city of Devils Lake by an additional five feet. The first phase includes the Creel Bay area.

City officials are also working with University of North Dakota-Lake Region to relieve subsurface saturation. This saturation has resulted in surface deterioration.

Benson County Emergency Management

Current Projects/Information:

An agriculture landowners' meeting to discuss flood damages has been scheduled for Minnewaukan, October 4. Land owners have lost acreage to the rising lake, and are looking for ways to replace lost farming income.

A bid opening for repairs to the entrance road Grahams Island State Park has been delayed until February.

N.D. Highway Patrol

Current Projects/Information:

Traffic problems are developing on the Woods-Rutten Road at Black Tiger Bay where fishing is prohibited from the bridge, but not from the roadway. Troopers have received complaints about pedestrian traffic, but are unable to take enforcement action because there are no road signs prohibiting such traffic.

7. ASSISTANCE NEEDED: None at this time.
8. OUTSIDE HELP ON SCENE: No change from previous reports.
9. OTHER INFORMATION: The next State Flood Coordination Center meeting will be held at 1:30 p.m., December 5, at the Ramsey County Courthouse basement meeting room.

Signed_____

Douglas C. Friez, State Director